1. **A student concluded that $0.5(6x + 4) = 3x + 4$ has no solution. Which statement BEST describes the student's conclusion?**

   A. The conclusion is incorrect because there are two solutions to the equation.

   B. The conclusion is incorrect because there is exactly one solution to the equation.

   C. The conclusion is correct because the coefficient before the variable is equivalent.

   D. The conclusion is correct because, when simplified, both sides of the equation are equivalent.

2. A student solved an equation for the unknown value of *n* as 0 =0. Which set represents all of the possible values of *n*?

   A. only zero can be the solution

   B. only positive numbers can be the solution

   C. only negative numbers can be the solution

   D. any number can be the solution

3. How many solutions does the equation $4r + 8 = 8 + 4r$ have?

   A. no solutions

   B. one unique solution

C. two unique solutions

D. infinitely many solutions

4. Which equation has no solution?

A. $4x - 9 = -9$

B. $3x + 2 = 17$

C. $2x + 4 = 2x + 6$

D. $x + 3x = 8x - 4x$

5. Solve the equation $2(3x - 4) = 8x - 4 - 2x$.

A. no solution

B. infinitely many solutions

C. $x = -1$

D. $x = 4$

6. Which statement correctly describes the solution(s) of the equation below?

$-2 + x - 3 = 2x + 5 - x$

A. The equation has one solution, which is -5.

B. The equation has one solution, which is 5.

C. The equation has infinitely many solutions.

D. The equation has no solution.

7. How many solutions does the equation $3x - 2x + 4 = 2 + x + 2$ have?

A. no solution

B. one solution

C. two solutions

D. infinitely many solutions

8. How many solutions does the equation $2(x + 4) = 2x + 8$ have?

A. no solutions

B. one solution

C. two solutions

D. infinite solutions

9. How many solutions does the equation $5(x-2)=8+5x$ have?

A. no solution

B. one solution

C. two solutions

D. infinitely many solutions

10. Which equation has no solution?

A. $-5+8x-9=3(x+3)$

B. $-2(6-3x)=-12+6x$

C. $6-2(3-2x)=-4(3-x)$

D. $-(4x+9)=2x-3(2x+3)$

11. Which of these equations does NOT have any solutions?

A. $10-3x-1=7+3x+2$

B. $12-7x-10=x-8x+2$

C. $13-4x+2=3x-7x+2$

D. $15-2x-2=10x+3x+2$

12. Which equation has infinitely many solutions?

A. $8x=8(x-1)+1$

B. $2x-5=2(x-5)$

C. $22-6x=2(3x-11)$

D. $3(5x-4)-8x=7x-12$

13. Which equation has an infinite number of solutions?

A. $7(1-4x)+3x=7$

B. $5(2-4x)+4x=10$

C. $8(2-2x)+16x=9$

D. $6(3-2x)+12x=18$

14. The equation $-2x+3=6-2x$ has no solution. Which step would change the given equation so that it has infinitely many solutions?

A. adding 3 to the left side of the equation

B. adding 6 to the left side of the equation

C. subtracting 3 from the left side of the equation

D. subtracting 6 from the left side of the equation